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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/991,152	11/16/2001	Stephanie Aquin	MBX 041	3848
23579	7590	07/09/2004	EXAMINER	
PATREA L. PABST PABST PATENT GROUP LLP 400 COLONY SQUARE SUITE 1200 ATLANTA, GA 30361			MCELWAIN, ELIZABETH F	
			ART UNIT	PAPER NUMBER
			1638	

DATE MAILED: 07/09/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/991,152

Applicant(s)

AQUIN ET AL.

Examiner

Elizabeth F. McElwain

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 1 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 November 2001.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-29 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☐ Claim(s) _____ is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☒ Claim(s) 1-29 are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:
 - I. Claims 1, 13, and 20, drawn to a transgenic organism expressing a 3-hydroxyacyl-ACP thioesterase, and a method of engineering an organism and a method of making PHA by expressing said enzyme, classified in class 800, subclass 281, for example.
 - II. Claims 2, 3, 6, 14, 15, 21 and 22, drawn to a transgenic organism expressing a 3-hydroxyacyl-ACP thioesterase and 3-hydroxyacyl-CoA synthetase, and a method of engineering an organism to express said enzymes, classified in class 800, subclass 298.
 - III. Claims 2, 4, 14, and 21, drawn to a transgenic organism expressing a 3-hydroxyacyl-ACP thioesterase and *alkK* acyl-CoA synthetase, and a method of engineering an organism to express said enzymes, classified in class 800, subclass 298.
 - IV. Claims 2, 14 and 21, drawn to a transgenic organism expressing a 3-hydroxyacyl-ACP thioesterase and acyl CoA transferase, and a method of engineering an organism to express said enzyme, classified in class 800, subclass 298.
 - V. Claims 5, 16, 17, 23 and 24, drawn to a transgenic plant expressing a 3-hydroxyacyl-ACP thioesterase, a 3-hydroxyacyl-CoA synthetase and a PHA

- synthase, and a method of engineering a plant to express said enzymes, classified in class 800, subclass 298.
- VI. Claims 5, 16, 17 and 23, drawn to a transgenic plant expressing a 3-hydroxyacyl-ACP thioesterase and *alkK* acyl-CoA synthetase and a PHA synthase, and a method of engineering a plant to express said enzymes, classified in class 800, subclass 298.
- VII. Claims 5, 16, 17 and 23, drawn to a transgenic plant expressing a 3-hydroxyacyl-ACP thioesterase and acyl CoA transferase and a PHA synthase, and a method of engineering a plant to express said enzyme, classified in class 800, subclass 298.
- VIII. Claim 6, drawn to a transgenic organism expressing a 3-hydroxyacyl-ACP thioesterase and acyl CoA transferase and a PHA synthase and a hydroxyacyl-CoA synthetase, classified in class 800, subclass 298.
- IX. Claim 6, drawn to a transgenic organism expressing a 3-hydroxyacyl-ACP thioesterase and acyl CoA synthetase (*alkK*) and a PHA synthase and a hydroxyacyl-CoA synthetase, and a method of engineering an organism to express said enzyme, classified in class 800, subclass 298.
- X. Claim 7, drawn to the transgenic organism of claim 1, wherein the enzyme is modified, classified in class 800, subclass 298.
- XI. Claims 8, 9, 11, 18 and 25, drawn to a transgenic plant expressing a 3-hydroxyacyl-ACP thioesterase, a 3-hydroxyacyl-CoA synthetase and a PHA synthase, and that may express a medium chain length 3-hydroxy fatty acid acyl

CoA in a plant, and a method of engineering a plant to express said enzymes, classified in class 800, subclass 298.

- XII. Claims 8, 9, 11, 18 and 25, drawn to a transgenic plant expressing a 3-hydroxyacyl-ACP thioesterase and *alkK* acyl-CoA synthetase and a PHA synthase, and that may express a medium chain length 3-hydroxy fatty acid acyl CoA in a plant, and a method of engineering a plant to express said enzymes, classified in class 800, subclass 298.
- XIII. Claims 8, 9, 11, 18 and 25, drawn to a transgenic plant expressing a 3-hydroxyacyl-ACP thioesterase and acyl CoA transferase and a PHA synthase, and that may express a medium chain length 3-hydroxy fatty acid acyl CoA in a plant, and a method of engineering a plant to express said enzyme, classified in class 800, subclass 298.
- XIV. Claims 10, 12, 19, 26 and 29, drawn to a transgenic plant expressing a 3-hydroxyacyl-ACP thioesterase, a 3-hydroxyacyl-CoA synthetase and a PHA synthase, and that may express a medium chain length 3-hydroxy fatty acid acyl CoA in a plant, and a method of engineering a bacteria to express said enzymes, classified in class 800, subclass 298.
- XV. Claims 10, 12, 19, 26 and 29, drawn to a transgenic plant expressing a 3-hydroxyacyl-ACP thioesterase and *alkK* acyl-CoA synthetase and a PHA synthase, and that may express a medium chain length 3-hydroxy fatty acid acyl CoA in a plant, and a method of engineering a bacteria to express said enzymes, classified in class 800, subclass 298.

- XVI. Claims 10, 12, 19, 26 and 29, drawn to a transgenic plant expressing a 3-hydroxyacyl-ACP thioesterase and acyl CoA transferase and a PHA synthase, and that may express a medium chain length 3-hydroxy fatty acid acyl CoA in a plant, and a method of engineering a bacteria to express said enzyme, classified in class 800, subclass 298.
- XVII. Claim 27, drawn to a method of screening for enzymes encoding 3-hydroxyacyl ACP-thioesterase by co-expressing with PHA synthase and 3-hydroxyacyl-CoA synthetase, classified in class 800, subclass 281, for example.
- XVIII. Claim 27, drawn to a method of screening for enzymes encoding 3-hydroxyacyl ACP-thioesterase by co-expressing with PHA synthase and CoA transferase, classified in class 800, subclass 281, for example.
- XIX. Claim 28, drawn to a method for increasing levels of C8 and C10 hydroxyacids or fatty acids of a plant oil by expressing transgenes encoding 3-hydroxyacyl-ACP thioesterase, classified in class 800, subclass 281, for example.
2. Inventions I-XIX are unrelated. Inventions are unrelated if it can be shown that they are not disclosed as capable of use together and they have different modes of operation, different functions, or different effects (MPEP § 806.04, MPEP § 808.01). In the instant case the different inventions of Groups I-XIX are different organisms and different methods, wherein one is not required by any one of the others.
- a. The transgenic organisms and methods of engineering said organism of Groups I-XVI are distinct one from each of the others wherein each organism is genetically and phenotypically distinct comprising different combinations of recombinant nucleic acids

and expressing different levels of the enzymes involved in PHA biosynthesis. In addition, each method requires different components and results in the production of distinct products.

b. The methods of Groups XVII-XIX are distinct methods one from each of the others, wherein each requires different components, different method steps and results in different products.

c. Furthermore, the methods of Groups XVII-XIX are distinct from the methods and organisms of Groups I-XVI, wherein each requires different components, different method steps and results in different products.

d. Therefore, the inventions of Groups I-XIX are distinct one from each of the others, and each can be separately made, independently used, and the patentability of one does not render the others obvious or unpatentable.

1. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification and the requirement for different searches, restriction for examination purposes as indicated is proper.

Applicant is advised that the reply to this requirement to be complete must include an election of the invention to be examined even though the requirement be traversed (37 CFR 1.143).

2. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the

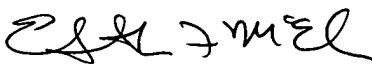
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currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Elizabeth F. McElwain whose telephone number is (571) 272-0802. The examiner can normally be reached on increased flex time.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amy Nelson can be reached on (571) 272-0804. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Elizabeth F. McElwain
Ph.D. Level Examiner
Art Unit 1638

EFM